cients of filters, study of photo-electric cells, study of diffuse radiation and of radiation to the sky, study of ultra-violet radiation, etc.).

(3) The solar constant. The commission expressed its admiration for the important and fruitful work of Doctor Abbot on the measurement of solar radiation and hoped that the means which have been placed at his disposal would permit him to continue his researches at high altitudes with much uccess.

(4) The view was expressed that it is exclusively for the permanent Meteorological Commission to decide upon the relation which should exist between this commission and that of section (c), International Union of Geodesy and Geophysics.

(5) M. Ångström reported on the researches at the observatory of Stockholm, and spoke on the possibility of predicting temperature changes from actinometric measurements.

(6) The question of establishing a publication for actinometric observations and studies was discussed. It was decided to invite "reporters" to summarize for the different countries matters pertaining to actinometry.

The following were designated as "reporters": For Germany, R. Süring; for Poland, Ed. Stenz; for Holland and Belgium, C. Schoute; for the Scandinavian countries, A. Ångström; for America, H. H. Kimball; for France, C. Maurain; for England, W. H. Dines; for Russia, N. N. Kalitin; for Italy, L. Palazzo; for the Iberian Peninsula, F. M. Costa di Lobo; for Australia, E. F. Pigot.

The following resolutions were adopted by the commission:

Resolution I: The commission resolved to address propositions to different institutes asking them to take up certain important actinometric investigations, and decided also to submit to the chiefs of these institutes special recommendations relating thereto.

Resolution II: In consideration of the great importance of the compensation method of K. Ångström, which ought to be used for standardization in actinometric measurements, the International Radiation Commission asks that the Meteorological Hydrographical office at Stockholm and the Physical Institute of the University of Upsala undertake a detailed investigation of the possible sources of error in the instruments concerned and make a report thereon to the president of the commission.

Resolution III: The International Radiation Commission considers it highly important that suitable filters be available for isolating parts of the total radiation in pyrheliometric measurements throughout the range of the solar spectrum and that arrangements be recommended for testing such filters. The commission begs the Netherlands Meteorological Institute (in collaboration with the Physical Institute of the University of Utrecht) and the Meteorological-Geophysical Institute at Frankfort on the Main to undertake these important works.

Resolution IV: The International Radiation Commission considers it highly desirable that the pyrheliometer of K. Ångström, which was accepted at the meeting at Innsbruck as the standard instrument, be compared with an absolute instrument constructed according to an independent principle and asks the Meteorological Institute at Potsdam (in collaboration with the Physikalisch-Technische Reichsanstalt, Charlottenburg) to consider this question. It is important also that the question as regards the construction of an absolute standard, to be used only for standardizations, be considered, and the commission hopes the institute will attend to this question also.

Resolution V: The International Radiation Commission expresses the special wish that in all countries where scientific researches are pursued or will be pursued at stations for airplane flights the possibilities of making radiation measurements in airplanes will also be studied.

The commission is at present not able to recommend special instruments for the purpose, but asks that reports on the present status of work in this field be communicated to the president of the commission.

Resolution VI: The International Radiation Commission expresses the following wish:

It is very desirable that the spectro-pyrheliometric measurements be extended to different regions of Europe and especially to the mountain regions, which at present as regards such investigations are represented by Davos alone.

The commission will especially support the proposal that studies of the spectral distribution of solar radiation be extended to the Carpathian Mountains, to the Scandinavian Mountains and to the Brocken, and also to the mountains situated on the Mediterranean coast. The commission requests the president to put himself in communication with the meteorological institutes concerned in order to realize this project.

The preceding resolutions were signed by J. Maurer, Zurich, president; A. Ångström, Stockholm; L. Gorczyński, Warsaw; F. Linke, Frankfort; C. Schoute, de Bilt; C. Dorno, Davos; H. Hergesell, Lindenberg; Chr. A. Nell, The Hague; R. Süring, Potsdam.

Davos, at the Observatory of Dorno, September 2, 1925.

551.524 (798)

ALASKA'S MILD WINTER OF 1925–26

By H. J. Thompson

[U. S. Weather Bureau, Juneau, Alaska]

Alaska, with an area of approximately 590,884 square miles, experienced the mildest winter in the history of Alaskan weather records, particularly so over the southeastern portion and the upper Yukon Valley. It must be borne in mind that the weather records in Alaska are not very old as compared with the stations in the States. On account of Alaska's shifting population and the slow means of communication from the remote parts, it is difficult to obtain long and continuous records from many localities of the Territory. There are, however, some long and accurate records for representative sections of Alaska. Sitka, in the southeastern portion, and one of the oldest permanent settlements in Alaska, has the longest weather records in the Territory, there being 44 years of temperature and 58 years of precipitation data. Most of the other stations have records averaging from 5 to 25 years.

Although November and December, 1925, and February and March, 1926, were very mild, special emphasis is laid on the phenomenally mild midwinter month, January, which is normally the coldest month of the year. This January, however, was the warmest on record throughout the Territory, except at Barrow, St. Michael, the Aleutian Islands, and the coast sections of the Seward Peninsula, where a few Januarys have averaged slightly higher. The January mean temperature for the entire Territory was 22.2°, or 14.0° above the average and 2.1° warmer than a normal November. The greatest excess over the previous high records for January in various sections was over the central portion of the interior, where the temperature averaged from 10° to 19° above the previous records. Over the upper Yukon Valley the excess was from 2° to 8°, and over southeastern Alaska, 4° to 8°.

The accompanying table shows the monthly mean temperatures with the departures from the normals from November 1, 1925, to March 31, 1926, for selected stations in Alaska, western Canada, and several northern States.

TABLE 1.—*Monthly mean temperatures with departures from the normals for the winter of 1925–26* [1]

Station	Length of record, years	Nov.	Dept.	Dec.	Dept.	Jan.	Dept.	Feb.	Dept.	Mar.	Dept.	Means	Dept.
Fortmann Hatchery	22	40.6	+3.2	*40.1*	+8.5	*40.6*	+14.7	*37.8*	+7.5	*43.6*	+8.8	40.5	+8.5
Juneau	30	40.4	+5.1	*38.2*	+7.0	*39.6*	+12.8	35.0	+5.2	40.8	+7.3	38.8	+7.5
Ketchikan	15	41.8	+2.8	*42.4*	+6.3	*41.2*	+10.9	[2] 37.8	+4.1	[2] 41.1	+4.7	40.9	+5.8
Prince Rupert, British Columbia	18	42.4	+2.0	*43.5*	+7.2	*43.0*	+10.2	[2] 40.7	+4.7	[2] 44.4	+6.0	42.8	+6.0
Sitka	44	42.3	+3.7	*42.8*	+7.4	*43.2*	+11.4	[3] 39.2	+5.1	[4] 43.8	+7.2	42.3	+5.0
Skagway	21	37.2	+5.1	*33.9*	+8.2	*37.6*	+18.3	31.1	+5.6	*40.8*	+11.1	36.1	+9.7
Wrangell	11	41.0	+3.0	*40.6*	+9.7	*41.2*	+14.2	[2] 36.0	+4.7	*41.6*	+8.6	40.1	+8.0
Means		40.8	+3.6	40.2	+7.8	40.9	+13.2	36.8	+5.3	42.3	+7.7	40.2	+7.2
Cordova	14	38.0	+4.3	32.5	+4.0	*38.3*	+12.6	30.6	+0.6	39.0	+7.1	35.7	+5.7
Katalla	4	37.9		*35.0*		*38.4*		*31.4*		*38.4*		36.2	
Kodiak	27	37.3	+2.4	29.0	−1.5	*36.6*	+7.7	32.4	+1.3	[3] 38.2	+4.6	34.7	+2.9
Latouche	9	39.6	+3.4	*33.7*	+2.8	*38.4*	+9.9	32.8	+0.9	*38.4*	+5.5	36.6	+4.5
Valdez	17	31.8	+5.1	23.8	+4.5	*31.7*	+14.2	19.4	−2.0	*32.9*	+8.3	27.9	+6.0
Means		36.9	+3.8	30.8	+2.4	36.7	+11.1	29.3	+0.2	37.4	+6.4	34.2	+4.8
Kennecott	12	*22.6*	+8.8	10.8	+7.7	*21.4*	+18.1	5.6	−5.6	*30.2*	+14.7	18.1	+8.7
Means		22.6	+8.8	10.8	+7.7	21.4	+18.1	5.6	+5.6	30.2	+14.7	18.1	+8.7
Matanuska	9	*32.2*	+10.6	11.6	+1.8	*30.0*	+21.7	19.8	+2.5	*38.8*	+16.4	26.5	+10.6
Talkeetna	8	*28.5*	+7.9	8.6	+0.1	*26.4*	+21.3	12.8	+3.4	*33.4*	+13.1	21.9	+7.8
Means		30.4	+9.2	10.1	+1.0	28.2	+21.5	16.3	−0.4	36.1	+14.8	24.2	+9.2
Bethel	3	19.8		7.0		*15.8*		*4.8*		26.5		14.8	
Means		19.8		7.0		15.8		4.8		26.5		14.8	
Dutch Harbor	27	36.4	+1.2	31.0	−1.5	33.8	+4.0	30.4	−0.4	35.2	−0.5	33.4	+0.6
Means		36.4	+1.2	31.0	−1.5	33.8	+4.0	30.4	−0.4	35.2	−0.5	33.4	+0.6
Dillingham	12	25.2	+1.0	11.9	−2.4	*28.2*	+14.8	17.6	+3.1	*30.7*	+8.3	22.7	+5.0
Nome	19	20.0	+4.6	5.8	0.0	[4] *9.8*	+9.2	−2.4	−7.9	*20.8*	+11.7	10.8	+3.5
St. Michael	21	21.2	+5.3	4.0	−1.2	11.8	+6.6	−0.4	−2.9	*19.6*	+9.9	11.2	+3.5
St. Paul Island	15	35.4	+2.7	27.9	+0.4	28.4	+6.0	21.8	−0.2	27.8	+2.0	28.3	+2.2
Means		25.4	+3.4	12.4	−0.8	19.5	+9.2	9.2	−2.0	24.7	+8.0	18.2	+3.6
Allakaket	16	0.2	+8.5	−19.5	−0.9	*2.6*	+26.0	−16.7	−5.5	[4] 10.4	+13.2	−4.6	+8.3
Dawson, Yukon Territory	25	*10.4*	+8.8	−5.2	+7.8	*7.2*	+29.6	−6.8	+5.2				
Eagle	26	11.0	+7.9	−4.2	+7.3	*12.2*	+27.9	−3.7	+0.7	[2] 22.9	+15.1	7.6	+11.8
Fairbanks	22	8.6	+5.8	−5.9	+1.5	*12.6*	+27.0	−2.4	−1.8	*26.8*	+16.5	7.9	+9.8
Fort Yukon	12	1.1	+7.6	−12.2	+10.0	*−3.0*	+22.9	−12.2	+3.7	[2] 12.4	+12.6	−2.8	+11.4
Holy Cross	23	15.2	+4.7	−0.4	+1.4	*11.7*	+15.3	−0.1	−3.5	[2] 25.9	+12.7	10.5	+6.1
Rampart	22	4.4	+5.6	−8.0	+4.8	*5.4*	+24.5	−5.7	+1.7	[4] 14.5	+9.6	2.1	+9.2
Tanana	25	5.6	+6.2	−11.0	+0.4	*9.8*	+25.1	−6.0	−1.1	[2] 19.4	+13.3	3.6	+8.8
Means		7.1	+6.9	−8.3	+4.0	7.3	+24.8	−6.7	−0.1	18.9	+13.3	3.5	+9.3
Barrow	14	−5.5	−5.0	−15.4	−0.6	−14.0	+6.0	−20.6	−4.9	−12.7	+1.3	−13.6	−0.6
Candle	15	9.5	+4.3	−8.6	−5.0	[3] −2.2	+8.0	−16.0	−10.7				
Noorvik	8	7.8	+4.0	−5.3	−1.0	*4.5*	+16.3	−15.4	−9.4	13.2	+11.5	1.0	+4.3
Means		3.9	+1.1	−9.8	−2.2	−3.9	+10.1	−17.3	−8.3	0.2	+6.4	−6.3	+1.8
Means for the entire Territory		24.8	+4.7	13.8	+2.2	22.2	+14.0	12.0	−1.4	27.9	+7.9	20.1	+5.6
Means for the coldest winter, 1917–18		13.9	−6.2	−1.2	−12.8	10.6	+2.4	11.5	−1.9	14.8	−5.2	9.8	−4.7
MEAN MONTHLY TEMPERATURES FOR SELECTED CANADIAN STATIONS													
Barkerville, British Columbia		26.6	+3.0	28.6	+7.7	25.7	+7.9	26.6	+7.7	31.6	+5.5	27.8	+6.4
Battleford, Saskatchewan		24.1	+7.8	15.8	+10.4	15.5	+21.4	15.3	+15.2	24.7	+11.6	19.1	+13.3
Calgary, Alberta		29.4	+3.6	31.5	+13.3	29.2	+20.8	28.2	+14.7	34.9	+8.7	30.6	+12.2
Edmonton, Alberta		23.9	+1.0	20.4	+7.3	20.6	+18.8	19.4	+11.1	30.3	+6.1	22.9	+8.9
Kamloops, British Columbia		35.7	+2.3	35.7	+6.8	28.8	+5.8	37.4	+9.1	44.6	+8.5	36.4	+6.5
Le Pas, Manitoba		24.7		6.1		1.0		6.5		11.6		10.0	
Medicine Hat, Alberta		32.6	+5.2	26.9	+8.7	24.6	+19.1	27.8	+16.6	36.7	+9.2	29.7	+11.8
Minnedosa, Manitoba		22.6	+5.3	12.0	+6.3	9.5	+16.7	12.7	+15.4	17.3	+4.8	14.8	+9.7
Moose Jaw, Saskatchewan		27.8		17.9		18.5		20.8		27.4		22.5	
Prince Albert, Saskatchewan		21.4	+6.0	12.7	+9.9	11.6	+20.0	15.8	+18.8	21.4	+9.4	16.6	+12.8
COMPARATIVE MONTHLY MEAN TEMPERATURES FOR ALASKA AND FOR SELECTED STATES FROM NOVEMBER, 1925, TO MARCH, 1926, INCLUSIVE													
Alaska		24.8	+4.7	13.8	+2.2	22.2	+14.0	12.0	−1.4	27.9	+7.9	20.1	+5.6
Michigan		34.7	−1.5	23.7	−1.2	22.0	+2.1	22.2	+3.8	23.9	−5.0	25.3	−0.4
Minnesota		29.5	−0.5	14.0	−0.9	13.5	+5.4	20.1	+9.3	23.5	−2.2	20.1	+2.2
Montana		33.2	+1.2	30.0	+7.6	25.4	+6.9	32.4	+11.2	35.0	+4.8	31.2	+6.3
Nebraska		38.0	+1.3	26.7	+0.9	26.6	+4.7	35.6	+10.5	36.4	+0.8	32.7	+3.6
New England		37.7	−0.4	26.1	−0.4	22.5	+0.3	20.4	−1.2	26.6	−4.0	26.7	−1.1
New York		37.6	+0.1	27.3	+1.1	24.3	+1.8	21.5	−0.4	27.0	−5.0	27.5	−0.5
North Dakota		28.8	+2.2	16.5	+3.5	16.3	+11.4	22.3	+14.4	25.8	+3.2	21.9	+6.9
Pennsylvania		39.5	−1.5	30.7	−0.2	27.8	0.0	28.7	+1.0	33.1	−4.4	32.0	−1.0
South Dakota		34.2	+0.6	22.1	+2.2	19.8	+4.0	29.0	+11.3	32.1	+1.2	27.4	+3.9

[1] Temperatures in italic type indicates warmest on record for Alaska. [2] Second warmest on record. [3] Fourth warmest on record. [4] Third warmest on record.

It will be readily seen from this table that during January, 1926, Alaska averaged much warmer weather than the Dakotas, Minnesota, and nearly the same as the New England section, Michigan, and New York States. The minimum temperature for the winter at Juneau was only 24°, which is 13° higher than its previous highest winter minimum. This temperature is also 2° warmer than the winter minimum at New Orleans for the same year.

Beginning in the autumn of 1925, the dates of the closing along the Yukon River were in most cases about 10 days later than usual. The opening this spring at Eagle, which is the only station heard from so far, occurred on April 28, which is the earliest since records were started there in 1898. At Barrow, on the northern Arctic coast, the schooner *Baychima* left that place for the south on October 2. This is the latest date known for a vessel to leave those waters, the usual time being early September. Favorable winds were responsible. Easterly winds blow the Arctic ice pack away from the shore, while westerly winds blow the ice against the coast. Barrow also recorded an open sea until January 8, 1926, with only floating ice between October 22 and 31, inclusive. Such a condition is most unusual, as the Arctic ice pack generally returns to Barrow in the early fall.

In November the semipermanent Aleutian LOW pressure area was more intense than usual.[1] Barrow was the only station in Alaska where the air pressure averaged above the normal. As would be expected from a pressure distribution of this intensity, unseasonably warm and cloudy weather prevailed over all sections of the Territory, the only station with temperature below normal being at Barrow.

During December the Aleutian LOW was below the normal and not quite so intense as in November. It was, however, central considerably farther south and east, thus causing very mild and rainy weather over the panhandle of Alaska. With the exception of Juneau, southeastern Alaska experienced the warmest December on record.

The average barometric pressure for January was decidedly below the normal. As stated by the San Francisco district forcaster (*2*) in the MONTHLY WEATHER REVIEW for January, 1926, "It is very probable that the records of the past will not show barometric pressure so low and so persistently low as prevailed over the northeast Pacific Ocean throughout the month." This statement is fully verified by the pressure records from the Dutch Harbor station which have been received by mail. The average sea-level pressure for January at that place was 29.07 inches, as compared with the previous lowest January average of 29.43 inches in 1915. Beginning with latitude 52° N., the subdepartures of the mean monthly barometric pressure increased rapidly to the north and west, with the maximum subdeparture of 0.57 inch at Dutch Harbor and nearly half an inch over the Yukon Valley. These subdepartures are the greatest on record in Alaska. With an average low-pressure distribution of such intensity and magnitude and exerting its influence far into the interior of Alaska, it is not surprising that January, 1926, was by far the warmest on record for the greater portion of the Territory.

[1] In obtaining the average pressure of the Aleutian LOW area for each month, the daily pressure values at sea as far south as Honolulu and Midway Island were obtained from the San Francisco daily radiographic reports as published on the weather map. By interpolation the pressure values were computed for each 10 degrees of latitude and longitude as discussed by Reed (*1*) in the MONTHLY WEATHER REVIEW for January, 1926.

Sir Frederic Stupart (*3*), of the Canadian Meteorological Service, gives the following excellent explanation for the cause of some of the mild winters in Canada, and it is well worth quoting, as it also applies directly to Alaska:

> In some years the North Pacific cyclonic areas appear to be of such intensity that they force their way into the continent in the high latitudes and *actually prevent* the formation of anticyclones and their concomitant low temperatures. These conditions lead to mild winters in Canada.

That is actually what occurred in Alaska throughout the past winter when anticyclones were in the process of formation. As an example of this, the only real or typical cold wave of the winter occurred over the interior on the morning of December 13, when an anticyclonic area was central over the upper Yukon Valley, accompanied by the coldest weather of the winter in the interior. Over the Gulf of Alaska a moderate low-pressure area prevailed. During the following 12 hours the LOW increased rapidly in intensity. At 8 p. m. the pressure was 29.14 inches at Cordova and was rapidly overpowering the interior HIGH. By the morning of the 14th the Gulf storm had further increased in intensity to 28.98 inches and the interior HIGH had entirely dissipated. Two other high areas formed later in the winter and each was quickly overpowered by the Aleutian LOW. The few cold waves which did enter the United States from the north undoubtedly moved in from the MacKenzie River district, or even farther eastward.

During February and March the Aleutian LOW remained centered over Dutch Harbor, with average readings of 29.25 and 29.27 inches, respectively. February was the only winter month when several interior stations reported temperatures below the normal, while, on the other hand, some coast stations in southeast Alaska experienced their warmest February on record. The two outstanding weather phenomena for March were the unprecedented high mean temperatures in most of the Territory and the lowest barometric pressure on record in Alaska, which occurred at Dutch Harbor on March 18, when a sea-level reading of 27.99 inches was recorded.

As the persistently low barometric pressure has been the direct cause for the very mild weather during the past winter, Tables 2 and 3 will be of interest and value to the meteorologist. Table 2 shows the average monthly pressures and departures for the Alaska stations during the winter of 1925–26, and Table 3 gives the pressure extremes and dates for each station since the stations were established.

TABLE 2.—*Average monthly sea-level pressures, with departures from normal (4), November, 1925, to March, 1926, inclusive*

Station	November		December		January		February		March		Seasonal average	
	1925	Departure	1925	Departure	1926	Departure	1926	Departure	1926	Departure	1925–26	Departure
Barrow	30.03	+0.03	30.09	+0.04	29.93	−0.11	30.02	−0.16	29.99	−0.13	30.01	−0.13
Bethel	29.49	−0.19	29.72	0.00	29.35	−0.46	29.55	−0.29	29.52	−0.38	29.53	−0.26
Cordova	29.42	−0.20	29.47	−0.19	29.46	−0.32	29.41	−0.41	29.72	−0.11	29.50	−0.25
Dutch Harbor	29.37	−0.22	29.59	+0.01	29.07	−0.57	29.25	−0.36	29.37	−0.46	29.31	−0.32
Eagle	29.71	−0.15	29.88	−0.08	29.70	−0.39	29.76	−0.28	29.82	−0.14	29.78	−0.21
Juneau	29.68	−0.08	29.69	−0.10	29.76	−0.13	29.59	−0.34	29.99	+0.05	29.74	−0.12
Kodiak	29.33	−0.21	29.45	−0.13	29.28	−0.36	29.33	−0.42	29.53	−0.22	29.38	−0.27
Nome	29.48	−0.24	29.73	−0.04	29.51	−0.38	29.72	−0.17	29.64	−0.22	29.58	−0.21
Noorvik	29.68	−0.15	29.90	+0.06	-----	-----	-----	-----	-----	-----	-----	-----
St. Paul Island	29.40	−0.22	29.79	−0.18	29.29	−0.39	29.51	−0.15	29.41	−0.33	29.48	−0.25
Sitka	29.65	−0.05	29.64	−0.12	29.73	−0.16	29.53	−0.32	29.97	+0.09	29.70	−0.11
Tanana	29.68	−0.14	29.88	−0.06	29.62	−0.45	29.75	−0.31	29.77	−0.27	29.74	−0.25
Honolulu	30.03	−0.00	29.94	−0.07	30.02	+0.02	30.06	+0.01		+0.03	30.02	0.00
Midway Is-									30.07			
land[1]	30.11	+0.04	29.84	−0.20	29.97	−0.03	29.99	−0.04	30.07	−0.01	30.00	−0.05

[1] One observation only (6.30 p. m. local time).

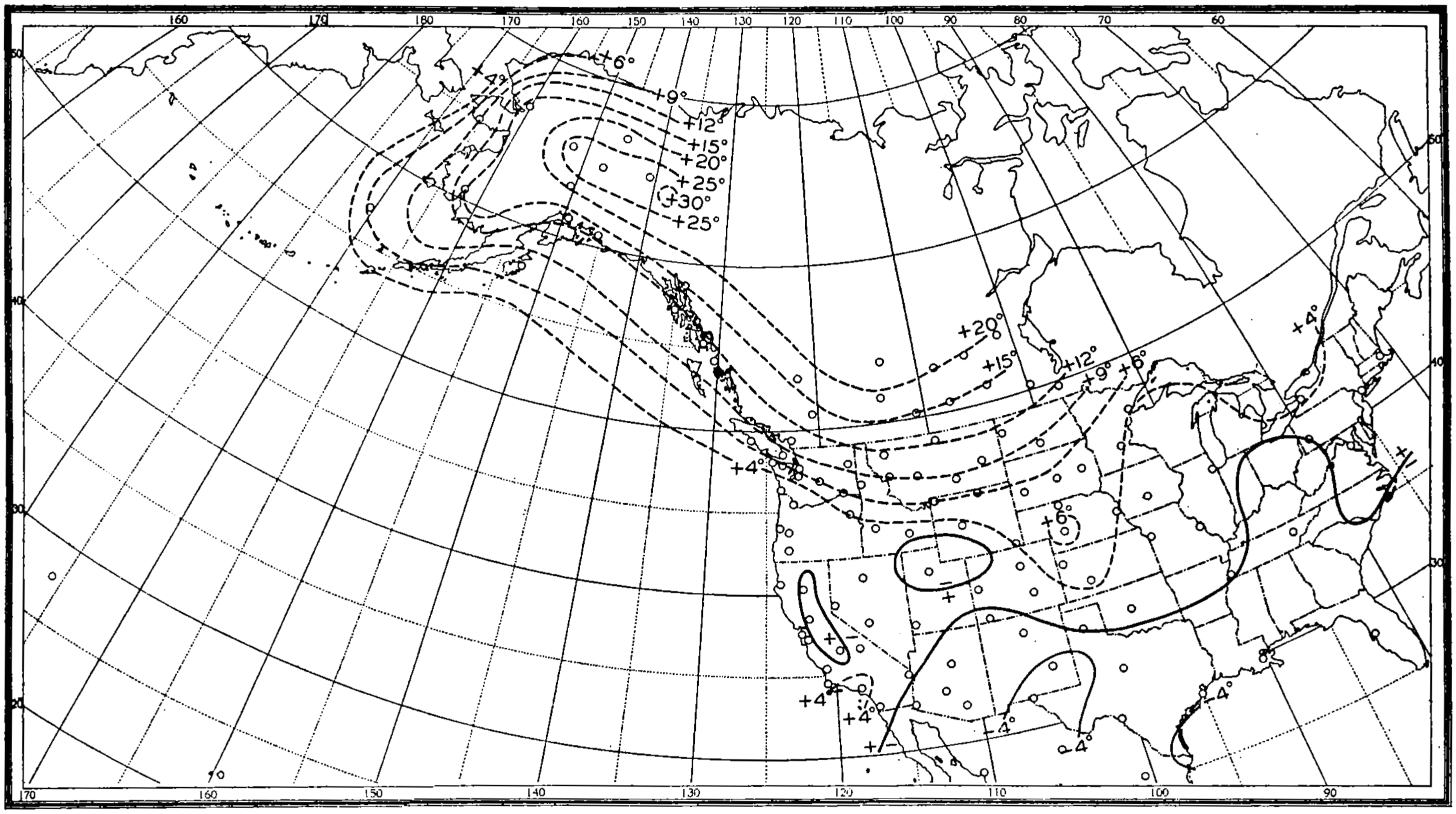

FIG. 1. Temperature departures for Alaska, Canada, and the United States for January, 1926

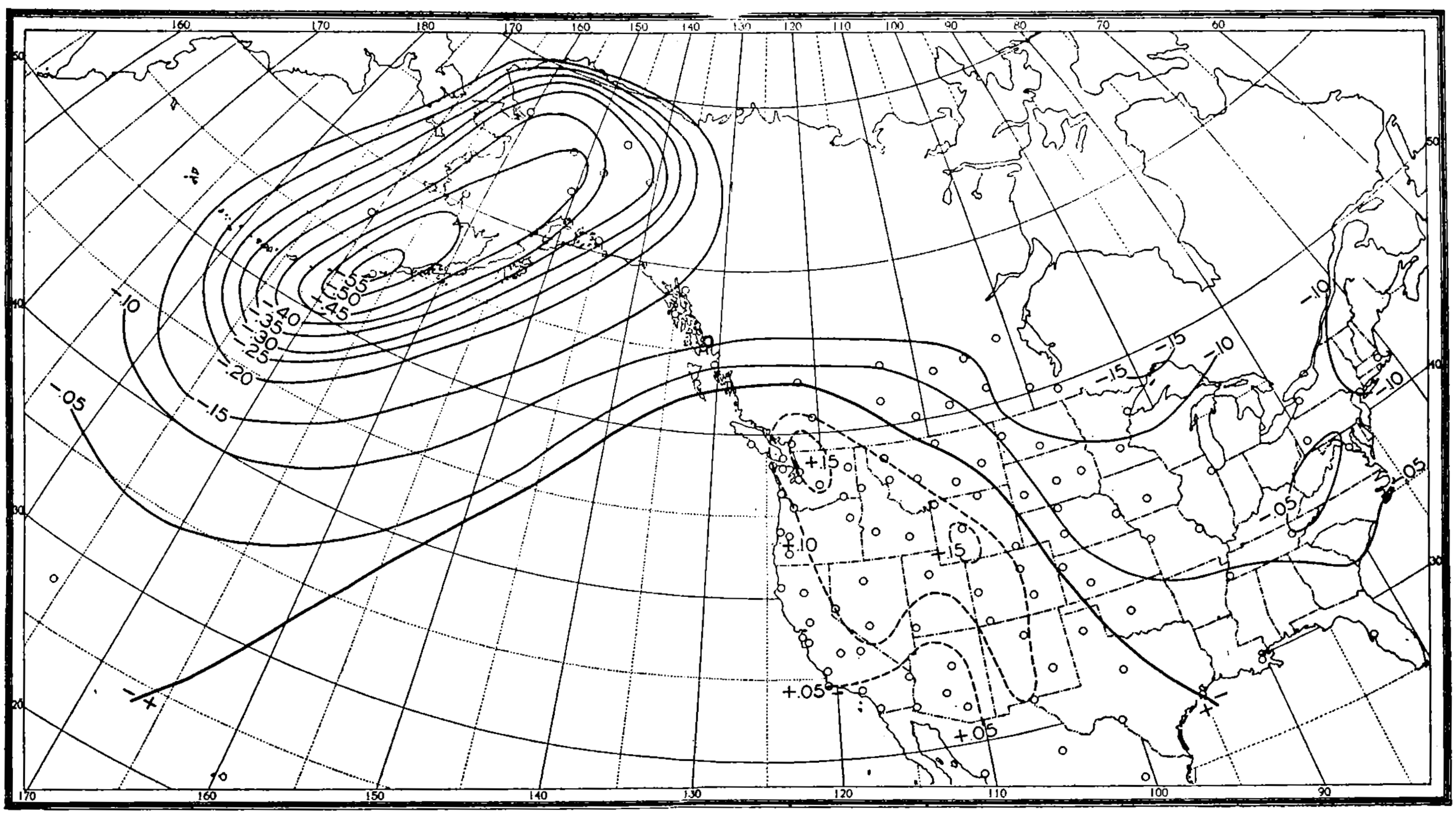

FIG. 2. Average sea-level pressure departures over the eastern Pacific Ocean for January, 1926

TABLE 3.—*Highest and lowest sea-level pressures, with dates, since the establishment of the stations*

Station	Highest	Date	Lowest	Date
Barrow	31.24	January, 1924	28.84	December, 1921.
Bethel or Akiak	31.00	December, 1921	28.06	February, 1924.
Cordova	30.96	December, 1924	28.37	December, 1924.
Dutch Harbor	30.94	January, 1916	27.99	March, 1926.
Eagle	31.30	January, 1917	28.74	January, 1910.
Juneau	30.93	February, 1923	28.66	December, 1921.
Kodiak	30.98	December, 1921	28.05	February, 1924.
Nome	30.97	January, 1917	28.29	February, 1924.
Noorvik	31.05	December, 1921	28.51	February, 1924.
Tanana	31.23	December, 1921	28.20	February, 1923.
Valdez	30.99	December, 1921	28.18	February, 1910.

Accompanying the unusually mild weather there was a decidedly subnormal snowfall throughout the Territory, with the exception of the extreme northern portion. The snow cover table is included below, showing the number of days with 1 inch or more of snow on the ground during the winter for the coast and a few inland stations. As the winter's precipitation along the Gulf and southeastern Alaska was heavy to excessive, and nearly all in the form of rain, this snowfall table convincingly shows at a glance the unusual mildness of the winter. The winter's snow cover disappeared at Holy Cross on March 10 and at Nome on March 29. This is approximately 50 days earlier than normal for each place. In southeastern Alaska, Ketchikan had only one day with 1 inch or more of snow on the ground as compared with a normal of 52. Correspondingly light snowfall prevailed throughout southeastern Alaska, there being much less than the usual amount even on the elevated regions.

TABLE 4.—*Normal and actual number of days with 1 inch or more of snow on the ground October 1, 1925, to April 30, 1926*

Station	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		Seasonal normal	Total, 1925–26
	Normal	1925	Normal	1925	Normal	1925	Normal	1926	Normal	1926	Normal	1926	Normal	1926		
SOUTHEASTERN ALASKA																
Fortmann Hatchery	0	0	3	1	22	2	27	0	24	0	25	0	16	0	117	3
Juneau	1	1	5	0	14	4	22	1	19	4	8	0	3	0	72	10
Ketchikan	0	1	1	0	10	0	10	0	13	0	16	0	2	0	52	1
Sitka	0	0	1	1	8	2	11	0	9	0	12	0	1	0	42	3
Skagway	2	1	10	0	16	2	13	1	5	1	8	0	0	0	54	5
Wrangell	0	0	2	0	14	1	22	0	16	1	13	0	0	0	67	2
GULF OF ALASKA SECTION																
Cordova	2	0	10	6	22	29	28	5	23	17	23	4	16	0	124	61
Katalla	0	0	3	2	15	8	28	0	26	16	21	2	25	1	118	29
Kodiak	1	0	3	4	9	7	18	0	18	5	9	1	4	0	62	17
Latouche	1	0	10	1	26	29	30	1	27	17	31	7	29	0	154	55
MATANUSKA VALLEY																
Matanuska	3	0	16	9	29	31	31	17	28	6	21	2	7	0	135	65

In conclusion, three important meteorological elements have established new records in Alaska, namely: (1) The barometric pressure with its persistent and continuous low readings, with the absolute lowest pressure reading of 27.99 inches at Dutch Harbor; (2) the unprecedented high average winter temperatures; and (3) the scant snowfall throughout the southern and western sections. These abnormalities are so phenomenal that from an Alaskan's viewpoint the year 1925–26 may well be termed the "year without a winter."

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THE TRAVEL OF DEPRESSIONS

551.515

By LIEUT. COL. E. GOLD, D. S. O., F. R. S.

A correspondent has recently asked for some information as to the bearing of the new ideas in meteorology on the travel of depressions.

In the earlier days of weather forecasting, attention was directed mainly to the cyclone or depression. In it was sought the key of weather forecasting and the search was directly mainly by the idea of averages. The average distribution of the meteorological elements in the different sectors of the depression was worked out and the average paths of the centers of depressions at different times of the year were laid down. This information was both necessary and useful. If the distribution of weather had never varied very much from the average and if the paths of all centers had been very close to the average paths, the method would indeed have solved the problem of forecasting; but actually the distribution of weather in a cyclone varies between wide limits and the centers of cyclones move on tracks which are separated widely apart and the speed of the centers along the tracks vary between zero and 50 or 60 miles per hour. Many of the changes of weather in this part of the world are produced by discontinuities in the circulation round depressions whose centers remain more or less stationary, generally in the triangle formed by Iceland, Scotland, and the south of Greenland, and a knowledge of the genesis and motion of these discontinuities is almost as important as a knowledge of the motion of the centers of the cyclones.

Progress beyond the limits of averages was being made gradually by such studies as those of Shaw and Lempfert on the life history of surface air currents where the idea of an unsymmetric discontinuous cyclone began tentatively to emerge, or those of Lempfert and of Durand-Gréville on the phenomena of the squall line. But until the development by Bjerknes of the idea of cold and warm sectors in the individual cyclone, separated by definite surfaces of discontinuity, practically the only guides which the forecaster had for the direction of motion of the cyclone were the average tracks and the barometric tendencies (the amount of rise or fall of the barometer in three hours) observed simultaneously at different places. From their very nature the latter could give the probable direction of motion only for the comparatively short period of three or six hours after the time at which they were observed.

By their study of individual cyclones the Bergen school were enabled to divide cyclones into different classes according to their stage of development. The simplest broad distinction is between—

(A) Cyclones which have a definite warm sector with definite lines of separation from the cold sector.